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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,233	09/24/2001	Hiroshi Nomura	P21188	6245

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EXAMINER

PRITCHETT, JOSHUA L

ART UNIT PAPER NUMBER

2872

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/961,233

Applicant(s)

NOMURA ET AL.

Examiner

Joshua L Pritchett

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/02, 5/03, 6/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Iizuka (US 5,166,829).

Regarding claim 1, Iizuka discloses a lens barrel comprising a lens frame (7 and 2) for supporting a photographing lens group (L1 and L2), the lens frame including a guide bore (7c and 3c) extends in a direction parallel to the optical axis of the photographing lens group (Fig. 1); a support barrel (area inside 3, 4, 5 and 17) wherein the lens frame can be inserted into and removed from a front opening of the support barrel (Fig. 1); a rod receiving portion (8) formed inside the support barrel at the rear of the front opening in the optical axis direction (Fig. 1); a bracket (front plate) attached to the front end of the support barrel to prevent the lens frame from falling out of the front of the support barrel (Fig. 1); and a guide rod (3) provided on the bracket for guiding the lens frame to move relative to the support barrel in the optical axis direction, the guide rod being placed through the guide bores and the end of the guide rod engaging with the rod receiving portion when the bracket is attached to the support barrel (Fig. 1; col. 2 lines 41-

Art Unit: 2872

44); wherein the lens group frame can be taken out of the support barrel through the front opening when the bracket having the guide rod is removed from the support barrel (Fig. 1).

Regarding claim 2, Iizuka discloses the lens barrel comprising a plurality of the guide bores, a plurality of the rod receiving portions and a plurality of the guide rods (Fig. 1).

Regarding claim 5, Iizuka discloses a first sub-lens group (L1) provided on the object side of a second sub-lens group (L2) provided on the image side with respect to the first sub-lens group, the first and second sub-lens groups functioning optically in a mutually close position and in a mutually distant position in the optical axis direction (Fig. 1); wherein the lens frame, which is guide by the guide rod, constitutes a first sub-lens group frame (7) which supports the first sub-lens group (L1); the support barrel further supports a second sub-lens group frame (2) which supports the second sub-lens group (L2) the second lens group frame can be inserted into and taken out of the support barrel through the front opening (Fig. 1); the first lens group frame and the second lens group frame can be taken out of the support barrel from the front opening in that order, upon removal of the bracket from the support barrel (Fig. 1).

Regarding claim 6, Iizuka discloses an actuator ring (10-15) rotatably supported by the support barrel in the rear of the second sub-lens group frame so as not to move in the optical axis direction, the actuator ring being rotated so as to drive the first sub-lens group frame and second sub-lens group frame with respect to the support barrel (Fig. 1; col. 3 lines 46-52) and the first sub-lens group prevented from moving rearward due to the first sub-lens group frame contacting the second sub-lens group frame (Fig. 1). Fig. 1 shows that the first sub-lens group frame (7) would be prevented from moving backward by contacting the second sub-lens group frame (2) through element (6b).

Regarding claim 7, Iizuka discloses the second sub-lens group frame is supported in the support barrel so that the second sub-lens group frame can rotate in one and the other direction over a predetermined angle and the second sub-lens group frame is guided to move in the optical axis direction at each rotational movement extremity thereof (col. 2 lines 25-32); wherein the rotation of the actuator ring selectively causes the second sub-lens group frame to rotate and to move in the optical axis direction (col. 2 lines 27-28); wherein the rotation of the second sub-lens group frame cause the first sub-lens group frame and the second sub-lens group frame to move to the mutually close position and to the mutually distant position (col. 2 lines 2-47); and wherein the movement of the second sub-lens group frame in the optical axis direction causes the first sub-lens group frame to integrally move with the second sub-lens group frame in the optical axis direction (col. 2 lines 4-47).

Regarding claim 8, Iizuka discloses the first sub-lens group and the second sub-lens group of a zoom lens (Fig. 1) one of a plurality of variable lens groups wherein the relative position of the first and second sub-lens groups frames is switched to the mutually close position and the mutually distant position in the zooming operation (col. 2 lines 4-47); wherein the first and second sub-lens groups serve as a focusing lens group (col. 2 lines 4-47). Iizuka discloses that the first and second lens groups are movable along the optical axis, thus changing the location of the focal point along the optical axis. Therefore the first and second lens groups act to focus the incident light at a desire location.

Art Unit: 2872

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 4 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Iizuka.

Regarding claim 3, Iizuka teaches the invention as claimed but lack specific reference to the use of a biasing spring. It is extremely well known in the art to provide a biasing spring between two lens groups to maintain separation between the lenses. Official Notice is taken. A biasing spring between the two sub-lens groups would meet the claim limitations because the spring would reside between the bracket (front plate) and the lens frame (2) and would force the lens frame (2) rearward. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a biasing spring between the two lens groups of Iizuka for the purpose of maintaining separation of the two lenses.

Regarding claim 4, Iizuka suggests a guide rod (3) removable from the bracket (front plate; Fig. 1). Fig. 1 shows a circle in the front of the bracket (front plate) where the guide rod (3) is inserted into the bracket and shows no locking means or other permanent fixing means. Therefore it would be obvious to one of ordinary skill in the art that the guide rod was removable from the bracket. Iizuka lacks specific reference to the guide rod being inserted into the bracket before the bracket is attached to the support barrel. There appears to be no critical reason for the guide rod to be inserted into the bracket before the bracket is attached to the support barrel.

Art Unit: 2872

Therefore, any assembly order that results in the correct arrangement of parts would be obvious to one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the guide rod into the bracket of Iizuka before attaching the bracket to the support barrel for the purpose of securely and precisely attaching the lens frame inside the support barrel and the guide rods to the rod receiving portion.

Regarding claim 9, Iizuka teaches the invention as claimed but lacks specific reference to the use of a shutter. It is extremely well known in the art to use a selectively opening and closing shutter in a lens barrel assembly to allow light to pass through the lens barrel to expose the photographic film to light. Official Notice is taken. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the lens barrel include a shutter for the purpose of selectively exposing the photographic film of a camera to the image light.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 571-272-2318.

The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 


DREW A. DUNN
SUPERVISORY PATENT EXAMINER